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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

BOX AF

NICOLE BRU-MAGNIEZ et al

Group Art Unit: 1712

Serial No.: 09/600,895

Examiner: R. E. Sellers

Filed: September 19, 2000

For: NOVEL SURFACTANT COPOLYMERS BASED ON
METHYLIDENE MALONATE

RESPONSE

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

The following remarks are submitted in response to
the Office action mailed August 26, 2003.

The previous rejection of Claims 11-22 under 35 USC
102(b) over Albayrak et al has been withdrawn and Claims 11
through 22 now stand rejected under 35 USC 103 over Albayrak
et al.

The Office action states that the Declaration of
Gerard Riess submitted with the Amendment of January 10, 2003,
has not been received. A duplicate copy of this Declaration
is submitted herewith.

As has been discussed previously, the Albayrak et al
reference discloses a reaction in which a methylene-

malondiester is polymerized in the presence of a surfactant such as Pluronic® F68 (Example 15). The claimed invention is directed to a *copolymer* which is formed by the reaction of methyldiene malonate providing a hydrophobic sequence, and a polyoxyethylene or polyoxypropylene compound providing a hydrophilic sequence. This reaction, however, must take place in the presence of an initiator or under strongly acid or strongly alkaline conditions which would convert the OH end-groups of the surfactant to O⁻ groups. Since neither of these conditions is present in the Albayrak et al procedure, Dr. Riess concluded in the Declaration submitted with the Response of January 10, 2003, that Albayrak et al discloses only a physical mixture and not a copolymer.

The Office action of August 26, 2003, states that "[t]here is no evidence that the polymerization of 1-ethoxycarbonyl-1-ethoxycarbonylmethyleneoxycarbonylene in the presence of polyvinylpyrrolidone or polyoxyethylene as shown in Examples 12 and 15, respectively, of the reference does not incorporate at least a portion of the hydrophilic polyvinylpyrrolidone or polyoxyethylene." Since the Office action does not accept the opinion of Dr. Riess that no copolymer is formed in the process of Albayrak et al, Applicants now submit a new Declaration of Gerard Riess under 37 CFR § 1.132 reporting on experimental results carried out

to determine if any copolymer species might be formed in the reaction of methylidene malonate and Pluronic® under the conditions taught by Albayrak et al. The experimental conditions used reproduce the polymer preparation protocol given at column 4, lines 54 through 63 of Albayrak et al in Example 7, without the final flotation or centrifugation steps. Comparative tests were carried out, one including both methylidene malonate and Pluronic® F68, the other containing no Pluronic® F68. The resultant microparticles were analyzed by mass spectrometry and nuclear magnetic resonance spectrometry, in an attempt to identify and possibly quantify any copolymer formed. Pluronic® F68 was also analyzed in itself to determine its mass spectra.

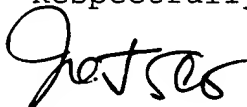
What was found by Dr. Riess as a result of these experiments was that for the reaction containing both methylidene malonate and Pluronic® F68, the mass spectrum appears as a clear superposition of peaks of Pluronic® F68 with those of polymethylidene malonate, as seen in the control samples. No new peaks which might correspond to a new copolymer species were detected in the mass spectrum. The results of the NMR analysis similarly show that the polymethylidene malonate made by polymerization of the corresponding monomer in the presence of Pluronic® appears to be the same as the material produced without the presence of Pluronic®. Thus, the NMR analysis results also do not support

the hypothesis that polymethylidene malonate-Pluronic copolymers are formed as a result of the Albayrak et al method. Thus, it is submitted that the test results in this Declaration provide to a very high degree of certainty rebuttal for the allegation that a copolymer is formed in the Albayrak et al method. The present rejection is thus based upon the pure speculation that a copolymer is formed under the conditions described in Albayrak et al. Those of ordinary skill in the art do not believe any copolymer would be formed under such conditions, and it has now been shown that there is no evidence of copolymer formation under such conditions.

Since the allegation of obviousness in the Office action of August 26, 2003, has now been properly rebutted, withdrawal of this rejection is requested.

In view of the foregoing remarks and the presentation of the Declarations, Applicants submit that this application is now in condition for allowance and an early allowance of the application is earnestly solicited.

Respectfully submitted,



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